

Ref #	Hits	Search Query.	DBs	Default Operator	Plurals	Time Stamp
L1	3933	(gate or electrode) and ((active adj (region or area)) same (deposit or depositing or deposition) same oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 10:07
L2	2879	1 and @ad<"20020118"	US-PGPUB; USPAT	OR	ON	2005/01/25 08:25
L3	2842	2 and substrate	US-PGPUB; USPAT	OR	ON	2005/01/25 09:18
L4	6457	(gate or electrode) and ((active adj (region or area)) same (deposit or depositing or deposition or deposited) same oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 09:17
L5	2187	(gate or electrode) and ((active adj (region or area)) with (deposit or depositing or deposition or deposited) same oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 09:18
L6	1692	5 and @ad<"20020118"	US-PGPUB; USPAT	OR	ON	2005/01/25 09:19
L7	1449	6 and transistor	US-PGPUB; USPAT	OR	ON	2005/01/25 09:18
L8	527	7 and (contact with (active adj (region or area)))	US-PGPUB; USPAT	OR	ON	2005/01/25 08:28
L9	479	8 and (gate with oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 09:19
L10	368	8 and (gate adj oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 08:29
L11	11130	(gate or electrode) and (((source or drain) adj (region or area)) same (deposit or depositing or deposition or deposited) same oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 09:53
L12	10971	11 and substrate	US-PGPUB; USPAT	OR	ON	2005/01/25 09:54
L13	9940	12 and transistor	US-PGPUB; USPAT	OR	ON	2005/01/25 09:54
L14	81	13 and (gate adj (insulating or insulative))	US-PGPUB; USPAT	OR	ON	2005/01/25 09:28
L15	64	14 and @ad<"20020118"	US-PGPUB; USPAT	OR	ON	2005/01/25 10:06
L16	6625	13 and (gate adj oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 09:28
L17	5420	16 and @ad<"20020118"	US-PGPUB; USPAT	OR	ON	2005/01/25 10:06

L18	5269	17 not 10	US-PGPUB; USPAT	OR	ON	2005/01/25 09:29
L19	4601	18 and contact	US-PGPUB; USPAT	OR	ON	2005/01/25 09:30
L20	4221	19 and (opening or hole or trench or via or recess or aperture)	US-PGPUB; USPAT	OR	ON	2005/01/25 10:06
L21	2501	(gate or electrode) and (((source or drain) adj (region or area)) same (deposit or depositing or deposition or deposited) same oxide)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/25 09:53
L22	2122	21 and substrate	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/25 09:54
L23	1063	22 and transistor	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/25 09:54
L24	478	23 and contact	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/25 09:55
L25	340	24 and (opening or hole or trench or via or recess or aperture)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/25 10:04
L26	3454	438/290,294,299,300,301,303, 305-307.ccls. and @ad<"20020118"	US-PGPUB; USPAT	OR	ON	2005/01/25 10:05
L27	3412	26 not 10	US-PGPUB; USPAT	OR	ON	2005/01/25 10:06
L28	3405	27 not 15	US-PGPUB; USPAT	OR	ON	2005/01/25 10:06
L29	2507	28 and contact	US-PGPUB; USPAT	OR	ON	2005/01/25 10:07
L30	2429	29 and (gate or electrode) and oxide	US-PGPUB; USPAT	OR	ON	2005/01/25 10:07
L31	2051	30 and ((deposit or depositing or deposition or deposited) same oxide)	US-PGPUB; USPAT	OR	ON	2005/01/25 10:08

US-PAT-NO: 6025620

DOCUMENT-IDENTIFIER: US 6025620 A

TITLE: Semiconductor device and method of producing the same

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Detailed Description Text - DETX (7):

FIG. 2 is a cross-sectional view of elements (MOS transistors) which are formed in the silicide region and the non-silicide region respectively in the present invention. In FIG. 2, numeral 3 designates a semiconductor substrate; numeral 4 designate separation oxide films formed in an inactive region of the surface of semiconductor substrate 3; numeral 5 designates gate insulating films formed in an active region of the semiconductor substrate 3; numeral 6 designates gate electrodes patterned in the surface of gate insulating film 5; numeral 7 designate source/drain regions composed of regions having low concentration impurities 7a and regions having high concentration impurities 7b interposing a channel region position below the gate electrode 6; numerals 8 and 9 are silicide layers formed by siliciding the surface of gate electrode 6 and the surfaces of source/drain regions 7 in the silicide layer 2; numeral 10 designates sidewalls formed by depositing on sides of the gate electrode 6 in the silicide region; numeral 10a is a TEOS oxide film laminated in the non-silicide region 1, wherein the film is made of the same material as that composing the side walls 10; numeral 11 designates inter-layer insulating films; and numeral 12 designates contacts formed in the inter-layer insulating films 11 for electrically connecting the source/drain regions 7, including the regions having low concentration impurities 7a provided in the non-silicide region 1, of respective transistors to wirings (not shown) in upper layers.

Detailed Description Text - DETX (9):

In the next, a method of producing the semiconductor device having the non-silicide region and the silicide region as shown in FIG. 2 is described. As shown in FIG. 3a, separation oxide films 4 are selectively formed on the non-active areas of the semiconductor substrate 3, and gate oxide layers 5 are formed on the surfaces of activation regions. Thereafter, the gate electrodes 6 are patterned on the gate oxide films 5 of the activation regions, wherein the gate electrodes will be the wiring (word line). Said gate electrodes 6 are made of polysilicone. Then, by implanting impurities, regions having low concentration impurities 7a are formed interposing channel regions positioned below the gate electrode 6. The impurities is n-type when the surface of semiconductor substrate 3 is a p-well.

Detailed Description Text - DETX (29):

A semiconductor device according to Example 3 has a structure that silicide layers 20, 21 and 21a exist on surfaces of gate electrodes 6 composing a DRAM memory cell and regions where a bit wire contact 12a and storage node contacts

12b are in contact with a semiconductor substrate 3, and silicide layers are not formed in boundaries between an activation region having the memory cell and non-active areas, namely portions where bird's beaks 4a are formed at end portions of separation oxide films 4. Numerals 10c designate non-silicide regions 1, which are TEOS oxide films laminated on regions near the bird's beaks.